NEW PARADIGM: EVOLUTIONAL APPROACH IN THE ECONOMIC GEOGRAPHY

„THEORETICAL LOCATION OF THE EVOLUTIONARY ECONOMIC GEOGRAPHY IN THE INTERDISCIPLINARY SPACE"

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ABSTRACT

In recent years the evolutional approach has been penetrating into several disciplines. The extended darwinian mechanism (*variation, novelty, inheritance and selection*) can be found in the field of psychology, medicine, informatics, sociology and economics. According to scientists (*e.g.* Boschma, Martin, Witt) it would be fruitful to interlock the evolutionary approach with the economic geography. In this paper I want to summarize the latest issues, the newest achievements in the evolutionary economic geography.

1. INTRODUCTION

According to Ernst Mayr (Mayr 1997, Marosán 2005) the emergence of the evolutionary view in the sciences is an inevitable process. Mayr divides the development of the sciences in three parts: the process of cognition or knowledge starts from the question of „*what*", then reaches the question of „*how*" and finally puts the question of „*why*" (Marosán 2005: 53).

First there is the definition of the notions, the formation of the axiomatic system, the creation of the operational rules. Then the science tries to explore relationships, the connections between notions, and find answers why the given phenomenon exists or develops. The evolutionary approach could be an adequate method to find satisfying answers to the „why is it so?" questions (Marosán 2005: 54).

In line with the discrete development of sciences we can identify the co-evolution with other part of the disciplines, the emergence of the interdisciplinarity, the so called „hybridization". These hybrid bournes, fields create succesful and more viable paradigm(s) with higher probability, which paradigm better explains the notions, the phenomena, the coherences (Soós 2005: 41).

2. THE EVOLUTIONAL APPROACH IN THE ECONOMIC GEOGRAPHY

In the consequence of the extension of globalization, the localization of the competitive features, the bottleneck of the resources, the financial and economic crisis and other factors there are new expectations and the economic geography has to react, respond to changing circumstances and conditions.[1] The economic geography is a continually evolving study. On the following figure I will demonstrate contextually the features of the three main approaches used in the economic geography according to Boschma and Frenken (Boschma–Frenken 2005). These are the Institutional, the „New Economic Geography" and the Evolutional view.

[1] About the relevance of the economics see: Solow, R. M. (1972): *Science and ideology in economics*. In: *The Public Interest* 1971/23 (*Nobel laureate*)

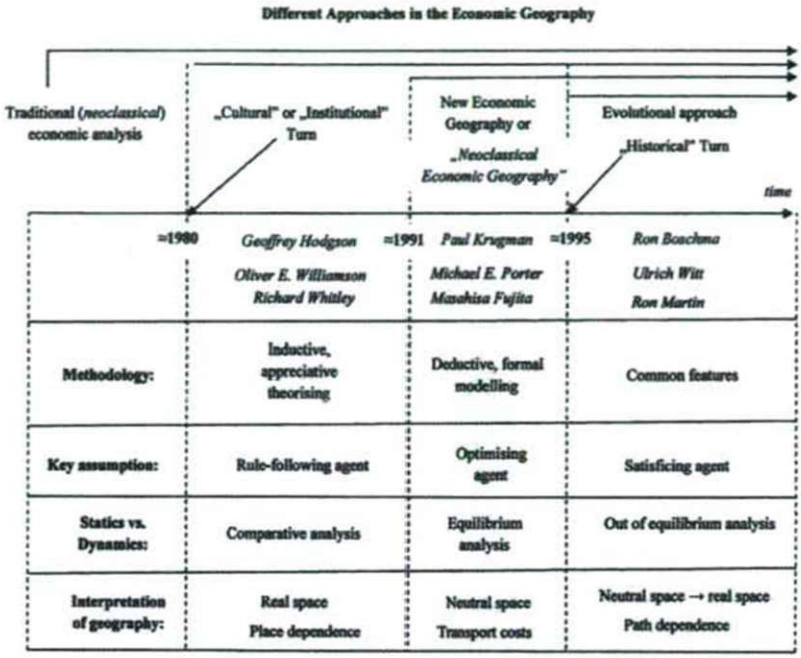

Figure 1. Different approaches in the Economic Geography. *Source: Boschma–Frenken 2005*

In *Figure 1.* I illustrate the different views in context of time and the main characteristics. Nowadays the conceptions exist paralell. The „cultural" or in other words the „institutional"[2] turn broke the hegemony of the traditional, neoclassical analysis, and took over some methods from sociology, politology and other cultural sciences, so it had been getting more interdisciplinary. With the leadership of Nobel laureate Krugman the neoclassical economist got started to study again the spatial processes, and „rediscovered" the importance of geography. The „new economic geography" term was proposed by Krugman, but Martin, Boschma and Frenken prefer the „neoclassical economic geography" expression referring to the pre-Krugman era, and the similar assumptions and methods with traditional economic analysis (Martin 1999, Boschma – Frenken 2005). The „historical turn" refers to the importance of „history" and economic development in economics over time. Dosi said reflecting to this process: „…the explanation to why something exists intimately rests on how it became what it is" (Dosi 1997: 1531). Below some prominent authors are listed, whose contributions were determinative. Hereinafter some basic features are categorised according to the theory such as methodology, key assumption, the interpretation of time and geography.

Henceforth I will merely deal with the evolutional pathway. In case of the economic geography too we have to put the above mentioned questions: *what* are the notions, the phenomena; *how* are they connected to each other; and *why* does the given system exist or what is the origin of it, and how had it been coming to existence. For instance notion could be the region, competitiveness, Gross Regional Product, globalization, localization, knowledge, innovation and so on.

[2] Similar institutional approach exists in economics.

On the second level the science analyzes the context of these notions, and finally tries to understand and describe why *e.g.* a succesful region exists and how it had been developing over time. In evolutionary economic geography these processes are mainly explained by the evolutional method (*generalised darwinism*) (Hodgson–Knudsen 2006). If we speak about evolutionary process in economic sense, this theory has to meet three requirements: 1. The system must be *dynamical*, where the key notion is the changing process over time, 2. These processes are *irreversible*, 3. The generative effect of *novelty*, which evokes the self-transformation of the economy (Witt 2006, 2008, Schubert 2009, Boschma–Martin 2010).

In evolutionary perspective it is indispensable to understand in details the most important, relevant phenomena:

- spatial technological processes,
- competitive advantages,
- economic restructuring,
- economic growth,
- agglomeration of economic activities,
- sources of increasing returns,
- spatial distribution of routines over time,
- creation and diffusion of new routines and economic novelties (innovation, knowledge, new firms, networks, industries).

Routine according to Boschma (Boschma–Frenken 2005) can be *e.g.* organisational skills, experience knowledge (learning-by-doing) and tacit knowledge. These routines can derive from or can be changed by learning, innovation, R&D, routinised behaviour, relocation. See also Nelson and Winter (Nelson-Winter 1982).

The new paradigm in question is a really „*hybrid*" study. Boschma and Martin speak about „cross-disciplinary co-operation", while Dopfer and Potts use the term „massive hybridisation of theory"(Dopfer–Potts 2004). Accepting the main statements[3] of the *European Science Foundation Workshop on Evolutionary Economic Geography* (University of Cambridge 2006) we can assess, that there are three pillars of the EEG,[4] which pillars cover the most relevant theoretical frameworks. The first pillar is the *Generalised Darwinism* from the modern evolutionary biology. This can be characterized by the notions: variety, novelty, selection, fitness, mutation and population dynamics thinking. The second pillar is the *Theory of Complexity*: far-from-equilibrium analysis, complex, adaptive systems, self organisation. The third is the *Path Dependence Theory*. The most important features are the role of contingency, self reinforcing dynamics, lock-in by increasing returns, path creation. The EEG attempts to combine these methods on three levels of aggregation (micro, meso and macro level) according to the examined issue. Micro level is *e.g.* firms, routines, meso level is defined on sectors, networks, clusters, and finally the macro level is dealing with spatial systems, regions (Boschma – Frenken 2005: 19).

Though the EEG is a promising opportunity of scientific cognition it has got still some deficiency:

- the adequate definition of notions and the suitable axiomatic system are still missing,
- the theory of biological evolution has to face with enormous attacks (*creationism, intelligent design*),[5]
- it is not so robust and accepted as the neoclassical approach,
- it is not predictive,

[3] See more: Boschma, R. (*editor*)(2010): The Handbook Of Evolutionary Economic Geography. Edward Elgar Publishing 2010 August In process.

[4] Abbreviation of the Evolutionary Economic Geography.

[5] See: Dembski, W. A. 1997: Intelligent Design as a Theory of Information. Center for the Renewal of Science and Culture.

3. CONCLUDING REMARKS

The Evolutionary Economic Geography is a new stream in economic geography. In consequence of the incessant change of external factors or variables such as global and local trends, increasing competition, interests, relevancy, the economics and other social sciences have to answer new questions and give new explanations: hereby competitive advantages can be created. The better is the adaption of the new theory in practice on several levels of aggregation (*firms, clusters, regions...*), the more success (*GDP per capita*) can be reached.

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